

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Applicants note with appreciation the courtesy extended by Examiner John Teresinski to Applicants' representative, Chien Yuan, during a telephonic interview conducted on June 9, 2004.

Claims 1-8 are currently pending. Claims 1, 2, 5, and 6 are amended by the foregoing amendment. Applicants respectfully submit that support for amended claims 1, 2, 5, and 6 is found in the originally-filed disclosure, including Figures 1, 5, and 6, and corresponding descriptive portions of the specification. No new subject matter is introduced by these claim changes.

The Office Action objected to claim 6 based on an informality. Also, claims 1-8 were rejected under 35 U.S.C. § 102(b) as anticipated by Takehara et al. (U.S. Patent No. 6,031,736; hereinafter "Takehara").

In response to the objection to claim 6, this claim is amended to depend from claim 5, not claim 4. Accordingly, Applicants respectfully submit that the objection to claim 6 is sufficiently addressed.

Regarding the rejection of claims 1-8, Applicants respectfully submit that Takehara fails to anticipate these claims. For example, amended claim 1 recites:

...performing low frequency, minute modulation of an output voltage of the direct-current power source;  
detecting an output current value of the direct-current power source in a current detection circuit after performing the modulation, the current detection circuit being configured to perform an amplification factor switching function that switches an amplification factor of the current detection circuit between definite magnitudes in synchronization with the performed modulation to produce an output; and  
controlling said switching converter using a signal obtained in a discriminator circuit by demodulating the output

of the current detection circuit in synchronization with the performed modulation.

Referring to Applicants' Figure 1, an output voltage of the solar cell 1 undergoes low frequency, minute modulation by the switching converter 2. The output current value of the solar cell 1 is detected by a current detection circuit 7b, which performs an amplification factor switching function. This function switches an amplification factor of the current detection circuit 7b between magnitudes in synchronization with the modulation performed by the switching converter 2, with both of these circuits receiving pulses from a pulse generator 10. See Applicants' specification at numbered paragraphs 54 and 55. The switching converter 2 is controlled by the switching pulse generator circuit 6, which receives an output of the discriminator circuit 8 in an integrated form.

Takehara fails to teach each and every element of amended Claim 1. For example, in contrast to amended Claim 1, Takehara does not disclose the step of "performing low frequency, minute modulation of an output voltage of the direct-current power source." Rather, the maximum power control unit 241 shown in Figure 1 of Takehara employs a digital microprocessor to calculate a voltage value corresponding to a maximum power level of the solar cell 1. The output of the maximum power control unit 241 is used by the instant value current control unit 242 to create and transmit a gate control signal to the switching unit 22. See Takehara at column 1, lines 37-60. Takehara thus does not show low frequency, minute modulation of an output voltage of the solar cell 1 at an alternation ratio of, for example, 2m, where m is a ratio value of 0.01. See Applicants' specification at numbered paragraphs 38 and 50. Instead of disclosing low frequency, minute modulation, Takehara discloses an on/off action created by the maximum power control unit 241 and the instant value current control unit 242.

Also, Takehara fails to disclose a current detection circuit configured to "perform an amplification factor switching function that switches an amplification factor of the current

detection circuit between definite magnitudes in synchronization with the performed modulation to produce an output," as recited in amended claim 1. None of the described elements of Takehara perform such a function, which is described in Applicants' specification at numbered paragraphs 54 and 55.

Further, Takehara does not teach or suggest "controlling said switching converter using a signal obtained in a discriminator circuit by demodulating the output of the current detection circuit in synchronization with the performed modulation," as recited in amended Claim 1. Referring to Figure 3 of Takehara, an inversion discrimination circuit 5 transmits an interruption signal to a CPU 4, which in turn transmits a gate control signal to the switching unit 22. See Takehara at column 4, lines 36-43. The inversion discrimination circuit 5 does not demodulate an output of a current detection circuit in synchronization with a modulation of an output voltage of the solar cell 1. In fact, Takehara does not provide any way to synchronize processing of the interruption signal from the inversion discrimination circuit 5 with such modulation. As such, Takehara fails to disclose the recited "controlling" step.

Accordingly, for at least the reasons discussed above, Takehara fails to anticipate amended claim 1. As such, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b). Claims 2-4 depend from independent claim 1 and are patentable for at least the reasons discussed above. Further, amended claim 5 recites, inter alia, features substantially similar to those of claim 1 discussed above. Accordingly, Applicants respectfully submit that amended claim 5, and dependent claims 7 and 8, are also allowable over Takehara.

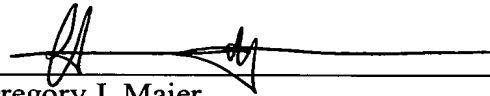
In addition, there is no suggestion in the prior art to modify the teachings of Takehara to arrive at the features of the present claims and, therefore, it is respectfully submitted that the prior art also fails to render obvious the present invention.

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Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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